



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/816,886

04/05/2004

Christian E. Gruber

IVGN 178.1 CON

3859

65482

7590

09/19/2007

INVITROGEN CORPORATION

C/O INTELLEVATE

P.O. BOX 52050

MINNEAPOLIS, MN 55402

EXAMINER

TUNG, JOYCE

ART UNIT

PAPER NUMBER

1637

MAIL DATE

DELIVERY MODE

09/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|--|--|--|--|
| <p align="center">Office Action Summary</p> | <p>Application No.</p> <p align="center">10/816,886</p> | <p>Applicant(s)</p> <p align="center">GRUBER ET AL.</p> | |
| | <p>Examiner</p> <p align="center">Joyce Tung</p> | <p>Art Unit</p> <p align="center">1637</p> | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54-123 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 54-123 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1637

DETAILED ACTION

The applicant's response filed 7/20/07 to the Office action has been entered. Claims 54-123 are pending.

1. Claims 54-123 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Huo (5,922,535, issued Jul. 13, 1999) in view of Chenchik et al. (5,962,271, issued Oct. 5, 1999).

Huo et al. includes the teaching of standard cDNA synthesis from mRNA (see column 5, lines 8-20). Huo et al. also disclose the advantageous use of a biotinylated primer in cDNA synthesis to facilitate attachment of synthesized cDNA to solid supports (column 5, lines 21-27; column 7, lines 51-60; column 11, lines 31-37; column 12, lines 9-24). Huo et al. also disclose the use a biotinylated primer comprising a rare restriction site, which primer sequence may be cleaved after cDNA synthesis with a restriction enzyme unlikely to cleave within any synthesized cDNA (see column 13, lines 17-46).

While Huo et al. disclose the use of a biotinylated primer-adapter comprising a rare restriction site, said primer-adapter is used in a different manner than in the claimed methods; in Huo et al., heteroduplex cDNAs are produced which are cleaved at points of variation. In other words, Huo et al. covers steps (a)-(c) of claim 54, for example, but not steps (d) and (e).

Chenchik et al. disclose the use of cDNA synthesis primers comprising rare restriction enzyme cutting sites to facilitate cloning of full-length synthesized cDNAs into cloning vectors (see column 9, lines 17-25 and column 11, lines 40-45).

One of ordinary skill in the art would have been motivated to use a biotinylated adapter-primer comprising a rare restriction enzyme cutting site in conventional cDNA synthesis and subsequent cloning because Huo et al. disclosed the benefit of biotinylated cDNA synthesis

Art Unit: 1637

primers in attaching cDNA to a solid support, and Chenchik et al. disclosed the benefit of cDNA synthesis primers having rare restriction sites in subsequent cloning of full-length cDNA into vectors. In other words, the skilled artisan considering the references as a whole would have combined the noted teachings to achieve the expected combined benefits of biotinylated primers (Huo et al.) and primers containing rare restriction sites (Chenchik et al.) in conventional cDNA synthesis. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to carry out the claimed methods.

The response argues that the instant claimed method comprising a step to release one or more cDNA molecules from the hapten. However, this limitation is not in the claims.

The response further argues that Huo and Chenchik et al. do not teach a method wherein cleavage of a restriction site within a primer-adaptor results in the release of synthesized cDNA from the hapten and rather Huo uses restriction site cleavage to fill in the cut site of the second synthesized strand of DNA with biotinylated nucleotides. See Huo at column 13, lines 40-45. However, Huo does disclose a dissociation step in which following the cleavage step, the cleaved nucleic acid 16 are separated from hapten (See column 8, lines 23-28 and fig. 1). Therefore, based upon the analysis above, the rejection is maintained.

Summary

2. No claims are allowed.
3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO


Art Unit: 1637

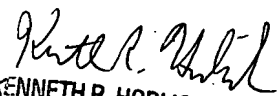
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (571) 272-0790. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joyce Tung 
September 15, 2007


KENNETH R. HORLICK, PH.D.
PRIMARY EXAMINER

9/17/07